

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 91-077
NPDES NO. CA0028941

RE-ISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR:

INTEL CORPORATION
INTEL SANTA CLARA 3 FACILITY
2800 NORTHWESTERN PARKWAY
SANTA CLARA, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Intel Corporation, hereinafter called the discharger, by application dated November 14, 1990, has applied for re-issuance of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger owns and operates the Intel Santa Clara 3 Facility (SC3), which performs quality control of chemicals and electrical testing of semiconductors. SC3 is located at 2800 Northwestern Parkway, Santa Clara, Santa Clara County (Figure 1) near the intersection of Bowers Avenue and the Central Expressway. SC3 has been in operation since 1976.
3. The SC3 site was placed on the final National Priority List (Superfund) in June, 1986.
4. Studies by the discharger show that onsite groundwater beneath SC3 has been contaminated by organic solvents such as trichloroethylene (TCE), 1,1,1,-trichloroethane (TCA), 1,2-dichloroethene (1,2-DCE), and Freon 113.
5. The discharger has installed three groundwater extraction wells to extract polluted water from the shallowmost (or A) aquifer zone. Extraction of polluted groundwater has been on-going at this facility since 1985. Approximately 30,000 gallons per day (gpd) is extracted and treated by a granular activated carbon system. The treated groundwater is discharged to a storm drain on the Central Expressway which is a tributary to San Tomas Aquinas Creek and South San Francisco Bay. This is an industrial park setting, dominated by the electronics industry, particularly semiconductor manufacturing. As such, there are other city tie-ins to the storm drain both before and after Intel's immediate discharge point.

As part of the Final Remedial Action Plan (RAP) for SC3 (Order # 90-105), the Board found that the discharger had considered the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW) of treated, extracted groundwater, as specified in Board Resolution No. 88-160.

Based on information submitted by the discharger, the Regional Board found that treated extracted groundwater reclamation, reuse, or discharge to POTW at SC3 is not feasible. One aspect of the final RAP for SC3 that may decrease the amount of groundwater discharged is pulsed pumping. Pulsed pumping implies the cycling of extraction wells on and off in active and resting phases. Theoretically, pulsed pumping allows for the removal of a minimum volume of polluted ground water, at the maximum possible concentrations, thus reducing the total amount of groundwater extracted.

6. This order updates and re-issues NPDES Permit No. CA0028941 originally issued on March 19, 1986 under Regional Board Order No. 86-14. The original permit covered two separate Intel facilities located approximately one half mile from each other in Santa Clara: the Intel Santa Clara 3 Facility (SC3) located at 2880 Northwestern Parkway, and Intel Magnetix located at 3000 Oakmead Village Parkway. In updating and reissuing the permit the following modifications have been made:
 - a. This permit shall only cover the discharge at SC3. The discharge at Intel Magnetix is now permitted under NPDES Permit No. CA0029670. Thus the Intel Magnetix discharge is no longer covered under this permit.
 - b. Effluent limitations have been changed from quarterly median/daily maximum limits to instantaneous maximum limits.
 - c. Volatile organic chemical (VOC) effluent limitations have been updated to include those chemicals identified for cleanup in the final RAP (Order No. 90-105) for SC3.
 - d. Inorganic effluent limitations have been added to the permit.
7. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for San Tomas Aquinas Creek (a tributary of Saratoga Creek) and South San Francisco Bay.

8. The existing and potential beneficial uses of San Tomas Aquinas Creek and South San Francisco Bay include:
 - Contact and non-contact water recreation
 - Wildlife habitat
 - Preservation of rare and endangered species
 - Estuarine habitat
 - Fish spawning and migration
 - Industrial service supply
 - Shellfishing
 - Navigation
 - Ocean commercial and sport fishing
9. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, dead-end slough, similar confined water, or any immediate tributary thereof".
10. The Basin Plan allows for exceptions to the prohibitions referred to in Finding #9 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
11. Exceptions to the prohibitions referred to in Finding #9 are warranted because this discharge is an integral part of a program to clean up polluted ground water and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would affect beneficial uses. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon Limitation B.1.e.
12. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The discharger's ground water extraction and treatment systems and associated operation, maintenance, and monitoring plans constitute an acceptable control program for minimizing the discharge of toxicants to waters of the State.
13. Effluent limitations of this Order are based on the Clean Water Act, Basin Plan, State and U. S. Environmental Protection Agency (EPA) plans and policies, and best engineering and geologic judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document" was also considered in the determination of effluent limits.

14. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
15. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. The effluent, at the discharge point to the storm drain, shall not contain constituents in excess of the limits contained in Table 1:

<u>Table 1</u>	
<u>Constituent</u>	<u>Instantaneous Maximum (µg/l)</u>
<u>VOCs</u>	
trichloroethene (TCE)	5
1,1,1-trichloroethane (TCA)	5
1,1-dichloroethane (1,1,-DCA)	5
1,1-dichloroethene (1,1-DCE)	5
(cis + trans)-1,2-dichloroethene	5
1,2-dichloroethane (1,2-DCA)	0.5
Any other volatile organic compound (as identified by EPA Method 601 or 624)	5
<u>Metals</u>	
arsenic	20
cadmium	10
chromium (VI)	11
copper	20
cyanide	25
lead	5.6
mercury	1
nickel	7.1
silver	2.3
zinc	58

2. The pH of the discharges shall not exceed 8.5 nor be less than 6.5.
3. In any representative set of samples, the discharges shall meet the following limit of quality:

Toxicity: The survival of test fishes in 96-hour static bioassays of the effluent as discharged shall be a three sample moving median of 90% survival and a 90 percentile value of not less than 70% survival. The bioassays shall be performed using two test fish species in parallel tests. One test fish shall be rainbow trout and the other shall be fathead minnow.

B. RECEIVING WATER LIMITATIONS

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place:
 - a. floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. bottom deposits or aquatic growths;
 - c. alteration of temperature or apparent color beyond present natural background levels;
 - d. visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
 - b. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than

specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.

c. Un-ionized ammonia (as N):

0.025 mg/l annual mean
0.4 mg/l maximum

3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon adoption by the Board and upon starting any discharge.
2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
3. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.
4. Any discharge to a location other than the discharge point(s) specified in this Order will require a modification to this Order or submission of a second NPDES application.
5. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December 1986 and modified January 1987, except items A.10, B.2, B.3, C.8 and C.11.
6. This Order expires May 15, 1996. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 15, 1991.



STEVEN R. RITCHIE
Executive Officer

Attachments: Figure 1, Location Map
 Self-Monitoring Program
 Statement of Basis

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, SUITE 500
OAKLAND, CA 94612

STATEMENT OF BASIS

RE-ISSUANCE OF WASTE DISCHARGE REQUIREMENTS
TO DISCHARGE TO STATE WATERS
NPDES PERMIT

INTEL CORPORATION
SANTA CLARA 3
2800 NORTHWESTERN PARKWAY
SANTA CLARA, SANTA CLARA COUNTY
NPDES Permit No. CA0028941

I. Facility Description

Intel Corporation (Intel) owns and operates the Intel Santa Clara 3 Facility (SC3) which performs quality control of chemicals and electrical testing of semiconductors. SC3 is located at 2800 Northwestern Parkway, Santa Clara, Santa Clara County (Figures 1) near the intersection of Bowers Avenue and the Central Expressway. SC3 has been in operation since 1976. Studies by Intel show that onsite groundwater beneath the site has been contaminated by organic solvents such as trichloroethylene (TCE), 1,1,1,-trichloroethane (TCA), 1,2-dichloroethene (1,2-DCE), and Freon 113. SC3 was placed on the final National Priority List (Superfund) in June, 1986.

II. Discharge Description and Location

Intel has installed three groundwater extraction wells to extract polluted water from the shallowmost (or A) aquifer zone. Extraction of polluted groundwater has been on-going at this facility since 1985. Approximately 30,000 gallons per day (gpd) is extracted and treated by a granular activated carbon system. The treated groundwater is discharged to a storm drain on the Central Expressway which is a tributary to San Tomas Aquinas Creek, Guadalupe Slough, and South San Francisco Bay.

III. Basis for Tentative Waste Discharge Requirements' Effluent and Receiving Water Limitations

The proposed effluent and receiving water limitations are based on the Clean Water Act; San Francisco Bay Basin Plan;

State plans and policies; Regional Board's "Guidance Document for Discharge of Polluted Groundwater to Surface Waters, September 1985"; EPA Region IX's Draft "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document" dated July 1986; EPA and State maximum contaminant levels (MCLs) for drinking water; analytical method detection limits (DL) and best professional judgement (BPJ).

Section 301(b)(2) of the Clean Water Act calls for effluent limitations that require the application of best available treatment economically achievable (BAT). This treatment technology includes air stripping and carbon adsorption. For practically all ground water polluted with organic chemicals, this technology will reduce contaminant concentrations to below method detection limits. In producing EPA's "Draft NPDES Permit Limitations for Discharge of Contaminated Ground Water Guidance Document", the Office of Drinking Water carried out a substantial review of ground water treatment technologies and their cost. Results of this review indicate that VOC BAT limits in NPDES permits can be set at a level consistent with technology based MCLs. Therefore, setting effluent limits at 5 parts per billion (ppb) and lower is appropriate.

Levels for some EPA priority pollutant metals are stipulated in the Basin Plan (BP), Table IV-1. The permit contains effluent limitations for those chemicals which are in the ground water based on past data. However, the monitoring program includes additional constituents to determine the overall impact of these discharges and to screen for unexpected chemicals.

The limitations discussed above will protect beneficial uses of San Tomas Aquinas Creek, Guadalupe Slough and South San Francisco Bay. Specific rationale for each limitation is summarized in Tables 1 and 2.

TABLE 1 (EFFLUENT LIMITATIONS)

Constituent	Instantaneous Maximum Limit (ug/l)	Basis for Limitation
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<u>VOCs</u>		
trichloroethene (TCE)	5	MCL
1,1,1-trichloroethane (TCA)	5	BAT
1,1-dichloroethane (1,1-DCA)	5	SMCL
1,1-dichloroethene (1,1-DCE)	5	BAT
(cis + trans)-1,2-dichloroethene	5	BAT
1,2-dichloroethane (1,2-DCA)	0.5	SMCL
Any other volatile organic compound (as identified by EPA Method 601 or 624)	5	BAT
 <u>Metals</u>		
arsenic	20	BP
cadmium	10	BP
chromium VI	11	BP
copper	20	BP
cyanide	25	BP
lead	5.6	BP
mercury	1	BP
nickel	7.1	BP
silver	2.3	BP
zinc	58	BP
 <u>Others</u>		
pH	within range of 6.5 to 8.5	BP
Toxicity to Fish	90% median and a 90 percentile value of 70% min.	BP
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BAT	-	Best Available Treatment Economically Available
BP	-	Basin Plan
CWA/SB	-	Clean Water Act/State Board proposed effluent limits
DL	-	Detection Level
MCL	-	EPA Maximum Contaminant Level
SMCL	-	State Maximum Contaminant Level

Monitoring of the receiving waters is required to satisfy the Basin Plan and NPDES requirements. On a quarterly basis, pH, dissolved oxygen, and synthetic organic chemicals in the receiving waters will be analyzed.

TABLE 2 (RECEIVING WATER LIMITATIONS)

Constituent	Instantaneous Limit	Basis for Limitation
pH	within range of 6.5 to 8.5	Basin Plan
Dissolved Oxygen	5 mg/l minimum 3-month median at least 80% of sat.	Basin Plan
Un-ionized ammonia (as N)	0.025 mg/l annual mean 0.4 mg/l maximum	Basin Plan

IV. Prohibitions and Provisions

The tentative Waste Discharge Requirements would also grant exceptions to two Basin Plan prohibitions against discharge of waste containing "characteristics of concern to beneficial uses" (1) to any point below the Dumbarton Bridge and (2) to any point where less than 10:1 initial dilution is achieved. The Basin Plan allows for exceptions to these prohibitions when it can be demonstrated that net environmental benefit can be derived and resulting receiving water concentrations will be so low as to be unlikely to affect beneficial uses. Based on current information the effluent concentrations for this discharge should not affect beneficial uses of the receiving waters and a net benefit is achieved since this effluent results from groundwater pollution cleanup. A third Basin Plan prohibition, the prohibition against discharge of toxicants above levels achievable in a program acceptable to the Board, is considered to be satisfied by provision of treatment to meet the effluent limitations of this permit.

The discharger has considered the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. Because no manufacturing is presently occurring at the facility, onsite reclamation of ground water for facility production or landscape irrigation are considered infeasible at this time. Also, the City of Sunnyvale does not allow any discharges of treated ground water into their sewer system on a permanent basis.

The tentative Waste Discharge Requirements contain standard provisions which are placed in all NPDES permits issued by the Regional Board. These provisions include requiring compliance with a self-monitoring program and setting the permit expiration

date.

V. Expiration Date

The expiration date of the tentative permit is May 15, 1996.

VI. Additional Information

For additional information, interested persons may view a copy of the files on this site or write to the following address or call Greg Bartow of the Regional Board staff at (415) 464-0741.

California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR:

INTEL CORPORATION
Intel Santa Clara 3 Facility
2800 Northwestern Parkway
Santa Clara, Santa Clara County

NPDES NO. CA0028941

ORDER NO. 91-077

CONSISTS OF:

PART A Dated December 1986 and modified January 1987

PART B Adopted May 15, 1991

PART B

INTEL CORPORATION
Intel Santa Clara 3 Facility
2800 Northwestern Parkway
Santa Clara, Santa Clara County

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
I-1	At a point in the ground water extraction system immediately prior to treatment by granular activated carbon.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At a point immediately following treatment by granular activated carbon.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
R-1	At a point in San Tomas Aquinas Creek at least 100 feet but no more than 200 feet downstream from the storm drain discharge point of E-1 into San Tomas Aquinas Creek.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis is provided in the attached Table A.

III. MODIFICATIONS TO PART A, DATED DECEMBER 1986 AND MODIFIED JANUARY 1987

All items of Self-Monitoring Program Part A, dated December 1986 and as modified January 1987 shall be complied with except for the following:

- A. Additions to Part A: Section G.4.d.5: "Results from each required analysis and observation shall be submitted as laboratory originated data summary sheets in the quarterly self-monitoring reports. All chromatographic peaks for purgeable halocarbons and/or volatile organics shall be identified and quantified for all effluent samples. If previously unquantified peaks are identified in any effluent sample, then these peaks shall be confirmed based on analyses using chemical standards necessary to achieve proper identification and quantification. Results shall also be submitted for any additional analyses performed by the discharger at the specific request of the Board for parameters for which effluent limits have been established and provided to the discharger by the Board."
- B. Deletions from Part A: Sections D.2.b., D.2.g., D.3.b., E.1.e.1, E.1.f., E.2.b., E.3., E.4., E.5., F.2.b., G.2., G.4.b., and G.4.f.
- C. Modifications to Part A: For the following, the discharger shall comply with the Sections as changed and reported herein:
 - 1. Section D.2.a. is changed to read:

"Samples of effluent and receiving waters shall be collected at times coincident with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan."
 - 2. Section D.2.d. is changed to read:

"If two consecutive samples of any one constituent or parameter monitored on a weekly or monthly basis in a 30-day period exceed the effluent limit or are otherwise out of compliance, or if the required sampling frequency is once per month or less (quarterly, annually or other) and the sample or parameter exceeds the limit or is otherwise out of compliance, the discharger shall implement procedure(s) acceptable to or approved by the Board's Executive Officer, on a case by case

basis."

3. Section D.2.e. is changed to read:

"If any instantaneous maximum limit is exceeded, within 24 hours of receiving the analytical results indicating the violation, a confirmation sample shall be taken and analyzed with 24 hour turn-around time. If the instantaneous maximum is violated in the second sample, the discharge shall notify Regional Board staff immediately. The Executive Officer may order the discharge to be terminated, on a case-by-case basis."

4. In Section F.1, the phrase "(at the waste treatment plant)" is changed to read, "(at the location of the extraction and treatment system)".

5. Quarterly written reports required in Section G.4 shall be filed quarterly by the thirtieth day of the following month.

6. Section G.4.e is changed to read:

"Summary tabulations of the data shall include, for each constituent, total number of analyses, maximum, minimum, and average values for each period. Total flow data shall also be included. This information shall be prepared in a format similar to EPA Form 3320-1. This information shall be submitted only to the Regional Board:

Executive Officer
California Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

7. The Annual Report required in Section G.5. shall be submitted by January 30 of each year in place of the quarterly report due on the same day.

IV. MISCELLANEOUS REPORTING

If any chemicals or additives are proposed to be used in the operation and/or maintenance of the ground water extraction/treatment system, the discharger shall obtain the Executive Officer's concurrence prior to use. The details concerning such approved use shall be reported in the next periodic report submitted to the Board.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 91-077.
2. Was adopted by the Board on May 15, 1991.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or Regional Board.



STEVEN R. RITCHIE
Executive Officer

Attachment: Table A
 Figure 1
 Figure 2

TABLE A
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	E-1	R-1
TYPE OF SAMPLE	G	G	G
Flow Rate (mgd)	cont	cont	-
BOD, 5-day 20°, or COD (mg/l & kg/day)	-	Y	-
Total Dissolved Solids (mg/l)	Q	Q	Q
Bio-assay 96-hr % survival (flow-through or static)	-	Q/Y	-
Ammonia Nitrogen (mg/l & kg/day)	-	V	-
Turbidity (NTU's)	Q	Q	-
pH (units)	M	M	Q
Dissolved Oxygen (mg/l and % saturation)	-	Q	Q
Temperature (°C)	M	M	Q
Arsenic (mg/l)	Y	Y	Y
Cadmium (mg/l)	Y	Y	Y
Chromium (hexavalent) (mg/l)	Y	M/Q	Y
Copper (mg/l)	Y	M/Q	Y
Cyanide (mg/l)	Y	Y	Y
Lead (mg/l)	Y	M/Q	Y
Mercury (mg/l)	Y	Y	Y
Nickel (mg/l)	Y	M/Q	Y
Selenium (mg/l)	Y	M/Q	Y
Silver (mg/l)	Y	Y	Y
Zinc (mg/l)	Y	M/Q	Y
EPA Method 601 with Freon 113	M	M	Y
EPA 624*	Y	Y	Y

LEGEND FOR TABLE A

TYPES OF SAMPLES

G = grab sample
 C-24 = 24 hr. composite
 Cont. = continuous sampling
 DI = depth integrated sample
 BS = bottom sediment sample
 O = observation
 - = none required

TYPES OF STATIONS

I = intake or influent stations
 E = effluent sampling stations
 D = discharge point sampling stations
 R = receiving water sample stations
 L = basin and/or pond levee stations
 B = bottom sediment station
 G = groundwater station

FREQUENCY OF SAMPLING

H = once each hour
 D = once each day
 W = once each week
 M = once each month

Y = once each year

V = varies; total ammonia nitrogen shall be analyzed and unionized ammonia calculated whenever fish bioassay test results fail to meet the specified percent survival

2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/y = once in March and once in September
 Q = quarterly, once in March, June, September, and December

W/M = weekly for first three months after startup of operations and reduced to monthly thereafter

W/Y = weekly for first three months after startup of operations and reduced to annually thereafter

M/Y = monthly for first six months after startup of operations and reduced to annually thereafter

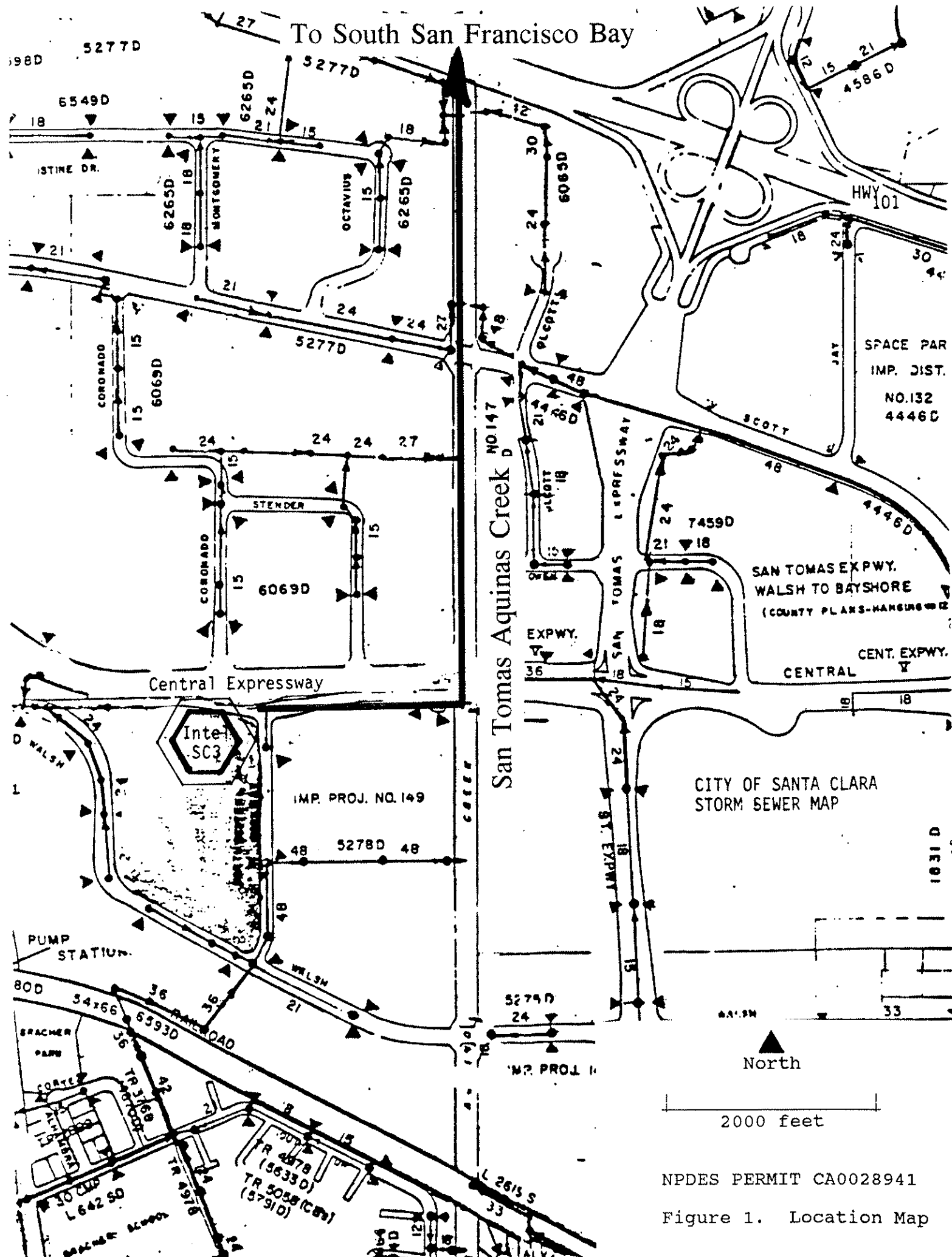
2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous

Q/Y = quarterly for first year after permit reissuance, reduced to annually thereafter

W/Q = weekly for first three months after startup of operations and reduced to quarterly thereafter

M/Q = monthly for first three months after permit reissuance and reduced to quarterly thereafter

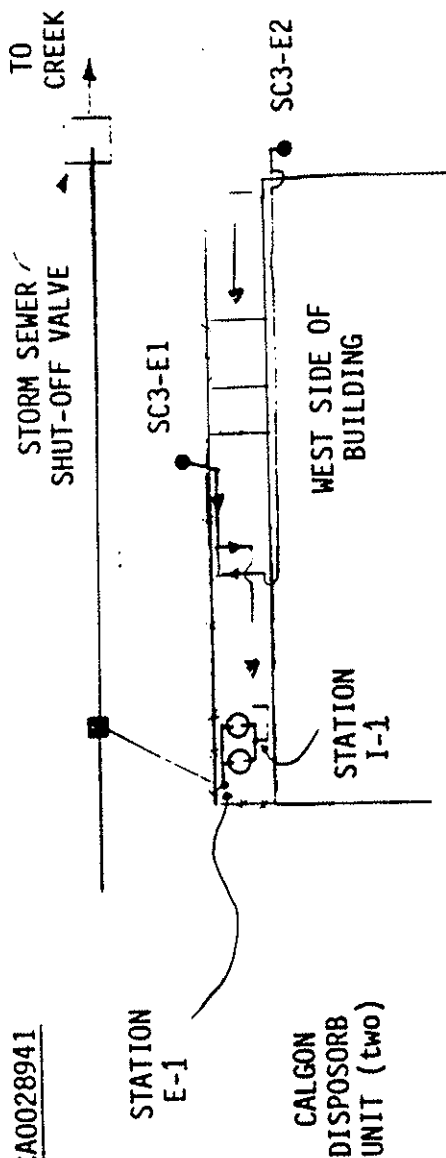
* When water samples are tested by EPA Method 624, it is not necessary to test the samples by EPA Methods 601 and 602.



NPDES PERMIT CA0028941

Figure 1. Location Map

NPDES #CA0028941



STATION 2-1

CENTRAL EXPRESSWAY

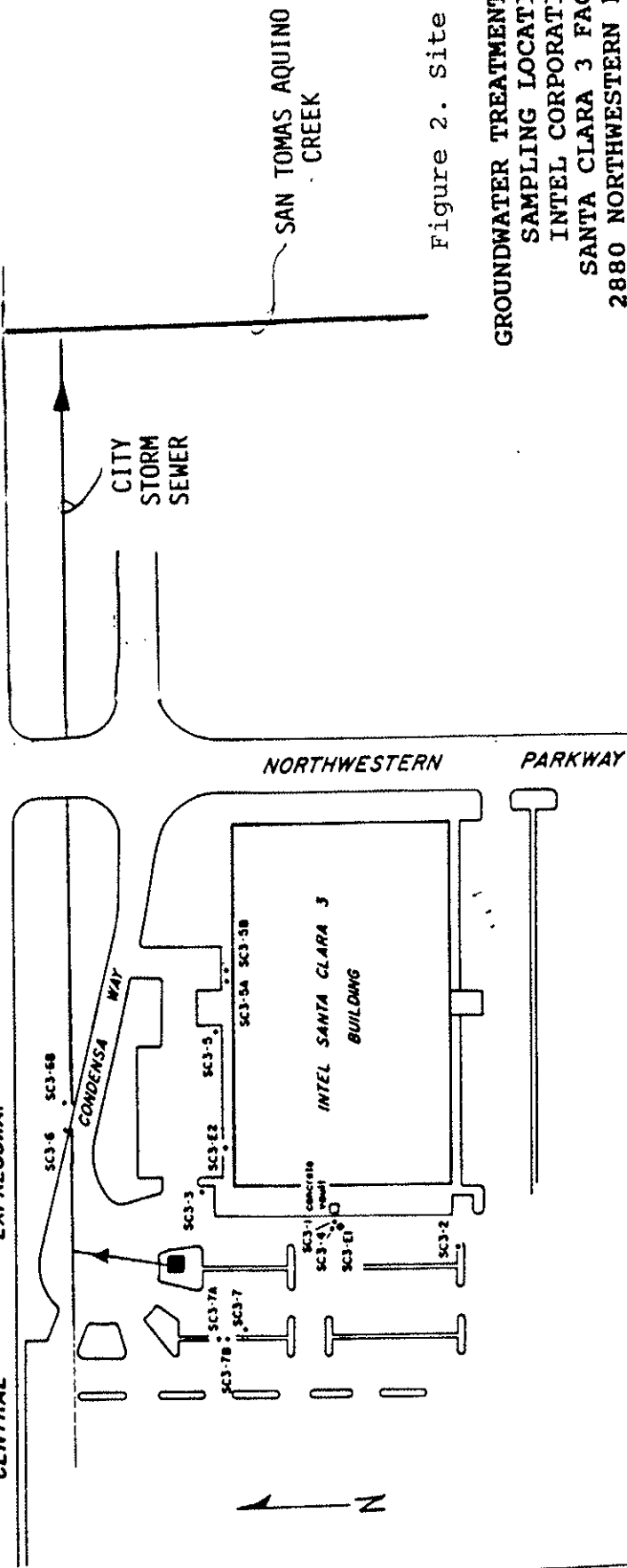


Figure 2. Site Map

GROUNDWATER TREATMENT SYSTEMS
SAMPLING LOCATION
INTEL CORPORATION
SANTA CLARA 3 FACILITY
2880 NORTHWESTERN PARKWAY
SANTA CLARA, CALIFORNIA